Communicable Disease UPDATE

Newsletter of the Bureau of Communicable Disease Control, Massachusetts Department of Public Health Vol. 15, No.3 Summer 2007

2007 – 2008 Flu Season

Influenza vaccine is the best way to prevent the flu and the good news is that vaccine manufacturers project that there will be more flu vaccine available this flu season than ever before. Everyone, including school children, who want to avoid getting the flu or avoid transmitting the flu to others, should get vaccinated.

There are no changes to the recommended risk groups for routine influenza vaccination. These groups include everyone 6 months – 59 months of age and those > 50 years of age; pregnant women; everyone with chronic medical conditions; and everyone who lives with or cares for someone in the groups listed above. In Massachusetts, more than 4 million people fall into one of the groups for whom flu vaccine is especially important.

There has been a change to the recommendation for children who are receiving influenza vaccine for the first time. Children younger than 9 years of age who are receiving flu vaccine for the first time should receive 2 doses, > 1 month apart with inactivated flu vaccine, and > 6 weeks apart with live, attenuated flu vaccine. Children younger than 9 years of age who received only one dose in their first year of vaccination should receive 2 doses the following year. Children who are in their 3rd year or more of vaccination and who received only one dose in each of their first 2 years of being vaccinated should continue receiving a single annual dose.

Because testing results indicate high levels of resistance to amantadine and rimantadine in circulating influenza viruses, only oseltamivir or zanamivir should be used for the treatment and prophylaxis of influenza.

As we've seen in the last number of years, flu vaccine will arrive in multiple shipments over a few months. The public should be reminded that while the best time to get vaccinated is in October or November, it is not too late to get vaccinated in December, January or even later.

We recommend that organizers of large flu vaccination clinics using state-supplied vaccine not schedule clinics until mid-November. All organizers of public flu clinics are urged to hold at least one clinic in December and to post all public clinics on the flu clinic website (http://flu.masspro.org). For information on posting clinics on the flu clinic website, call Sheryl Knutsen at 781-419-2749.

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Applied TB research Update

In 2001, the Massachusetts Department of Public Health was selected to be one of 21 member sites to participate in the Center for Disease Control and Prevention (CDC) "Tuberculosis Epidemiological Studies Consortium (TBESC)". All of the member-sites have a formal linkage between health departments and academic institutions. The purpose of the TBESC is to conduct programmatically relevant epidemiologic, behavioral, economic, laboratory and operational research concerning the identification, diagnosis, prevention and control of active TB disease and latent TB infection. The TBESC is an innovative approach to conducting applied TB research. A detailed description of this model has recently been published in the journal *Tuberculosis* (2007), 87, p1-6. (http://www.tuberculosisjournal.com/issues/contents?issue_key=S1472-9792(06)X0024-0#)

Five years into the consortium, 16 studies have been implemented by the TBESC, with 7 more studies to start this fall. The Massachusetts Department of Public Health, Division of TB Prevention and Control, along with our academic partner, Boston University School of Public Health, are participating in the TBESC and 5 of the 23 studies. One of these is the largest TBESC study: "Enhanced surveillance to identify missed opportunities for TB prevention in foreign-born populations". This study will provide the first comprehensive picture of TB in the foreign-born in United States. Researchers have interviewed 1,500 foreign-born persons with TB to solicit information about their care-seeking behavior, socioeconomic status, previous opportunities for diagnosis of TB infection and disease, and cultural and economic background. Study enrollment has been completed and data analysis has begun.

TBESC members have published articles including: "Human immunodeficiency virus counseling, testing, and referral of close contacts to patients with pulmonary tuberculosis: feasibility and costs"; *Journal Public Health Management Practice* 2007; 13(3): 252–262. "Using cost and health impacts to prioritize the targeted testing of tuberculosis in the United States"; *Ann Epidemiol* 2006; 16: 305–312 and "The scope and impact of treatment of latent tuberculosis infection in the United States and Canada" *Am J Respir Crit Care Med* 2006; 173: 927–931 .

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Look Inside!

Epidemiology

Flu: What You Can Do - Caring for People at Home

Flu: What You Can Do – Caring for People at Home is an education and training initiative that will be launched in the fall of 2007. This statewide campaign complements and supports ongoing educational efforts for both seasonal influenza prevention and pandemic planning in the Commonwealth.

The goal is to provide the general public with the information, tools and confidence to care for persons with mild influenza at home. Home care of persons with influenza during a pandemic will also be addressed to reduce the potential surge of patients seeking care at hospital emergency rooms.

The campaign is built around an informational booklet and a video for the general public, as well as a training program for local public health professionals, Massachusetts Medical Reserve Corps (MRC) volunteers, school nurses and members of community organizations. Upon completion of this training, participants will be able to implement effective strategies for using the video and booklets to educate residents of their communities or organizations about flu care at home and to have a better understanding of the similarities and differences between seasonal and pandemic flu.

This project is being managed through the Local Public Health Institute of Massachusetts (www.masslocalinstitute.org) in collaboration with a state-wide work group consisting of experts from the MDPH, the Boston Public Health Commission, local public health agencies and the health care provider community. Local public health professionals will play a critical role in the implementation and success of this important campaign. More detailed information will be forthcoming about how and when the training program and resources will be made available to them.

Local Public Health Summer Internship Program 2007

As the summer drew to a close, so did the fifth session of the Massachusetts Department of Public Health (MDPH) Local Public Health Summer Internship Program. This program was originally created to provide support for emergency preparedness planning and activities on the local level, and to strengthen collaborations between MDPH, local health departments and the schools of public health in Massachusetts. It has also provided opportunities for graduate students to gain experience on the front lines of public health and to promote careers at state and local health departments. Past interns have worked in communities throughout the state, ranging from some of the larger cities to small, rural towns.

This year, sixteen public health graduate students participated in the program. They were placed in communities in Essex, Middlesex and Norfolk counties and two interns worked in the Bureau of Communicable Disease Control. Six of the towns that were matched with interns were first time participants in the program. The remaining eight hosting towns had found the experience so beneficial in the past that they applied again for the 2007 session.

Intern projects covered a wide range of local public health responsibilities, including emergency preparedness, needle and prescription drug disposal, health education about tick and mosquito-borne diseases, beach water sampling and testing, provision of health services to immigrant communities, air quality testing, and school health. Interns took the lead on many of these projects, gaining practical experience in the field while providing the hosting local health departments with much needed assistance with ongoing work and special projects.

The MDPH Epidemiology Program will be organizing the sixth session of this program in 2008 and will continue to broaden the range of communities involved. Local health departments interested in hosting an intern in the summer of 2008 should begin thinking of projects that will support their needs and provide students with an engaging educational and practical experience. Information regarding the 2008 MDPH Local Public Health Summer Internship Program will be sent to local health departments and schools of public health in December 2007.

New Translations of Hepatitis Materials Are Now Available

In response to requests from various communities throughout the state, the Massachusetts Department of Public Health Viral Hepatitis Program has increased the number of languages in which viral hepatitis educational materials are available. These materials, and a variety of other viral hepatitis and hepatitis C materials from pocket cards to posters, can be obtained by calling 617-983-6800 or by connecting to www,mass.gov/hepc.

* Hepatitis A, B & C fact sheets are now available electronically in 7 languages: English, Spanish, Portuguese, French, Russian, Chinese and Vietnamese. The English, Spanish and Portuguese versions are also available in hard copy.

* The "Living With Hepatitis C" booklet, developed specifically for individuals with hepatitis C, is now available in hard copy in 5 languages: English, Spanish, Portuguese, French and Russian.

* "Hepatitis C – Learn More, Be Sure," an educational video for individuals who have hepatitis C which was already available in English and Spanish, was translated and dubbed into Portuguese this past year. A DVD version containing the English, Spanish & Portuguese versions was released in June of this year and also is available.

Expanded State-Supplied Vaccine Availability

The Massachusetts Department of Public Health (MDPH) is pleased to announce expanded availability of four vaccines. Meningococcal conjugate (MCV4) and rotavirus vaccine, previously available from the state only for children eligible for the Vaccines for Children Program (VFC), will now be universally supplied for children in Massachusetts, regardless of their insurance status. Human papillomavirus (HPV) vaccine remains available only for VFC-eligible females.

Availability has also been expanded for tetanus, diphtheria and acellular pertussis (Tdap) and varicella vaccines. Current availability of these vaccines is outlined below. Detailed information on the availability of all vaccines provided by MDPH can be found in the *Childhood Vaccine Availability* and *Adult Vaccine Availability* tables, accessible on the MDPH Immunization Program website: http://www.mass.gov/dph/cdc/epii/imm/imm.htm#management.

- **MCV4 vaccine**. In June, 2007, the Advisory Committee on Immunization Practices (ACIP) voted to update their recommendation for meningococcal vaccine. Meningococcal vaccine is now recommended for all adolescents 11-18 years of age, as well as other high risk groups for meningococcal disease. State supplied MCV4 vaccine is now available for all adolescents 11-18 years of age, with routine administration at 7th grade entry (11-12 years of age), and catch-up for those 13-18 years of age who have not yet received MCV4.

- **Rotavirus vaccine.** State supplied vaccine is now universally available for all infants 6-32 weeks of age.

- **Tdap vaccine.** State supplied vaccine is now available for all adolescents 11-18 years of age, with routine administration at 7th grade entry (11-12 years of age), and catch-up for those 13-18 years of age who have not yet received Tdap.

- **Varicella vaccine.** In addition to kindergarten entry, state supplied vaccine is now available for routine administration of a second dose at 7th grade entry (11-12 years of age), as well as for second dose catch-up of other age groups.

ACIP Recommendations for the use of meningococcal, rotavirus, Tdap and varicella vaccines can be located on the ACIP website: http://www.cdc.gov/vaccines/pubs/ACIP-list.htm.

Vaccine	Eligibility	Available For
Meningicoccal Conjugate (MCV4) (MDPH does not provide meningococcal polysaccharide vaccine)	All	- Adolescents at 7th grade entry (11-12 years of age) - Adolescents at high school entry (i.e., at approximately 15 years of age) - Routine catch-up of adolescents 13-18 years of age who have not yet received meningococcal vaccine - College freshmen living in dormitories - Other high-risk groups for meningococcal disease
Rotavirus	All	- Infants 6-32 weeks of age
Tdap	All	- One cohort of adolescents at 7th grade entry (11-12 years of age) - Routine catch-up of adolescents 13-18 years of age who have not yet received Tdap

Varicella	All	- All children 12 months-18 years of age
		  - 1ts dose routinely administered at 12-15 months of age
		  - 2nd dose for two cohorts, routinely administered at
		  - kindergarten entry (4-6 years of age)
		  - 7th grade entry (11-12 years of age)
		- Routine catch-up with a 2nd dose for other age groups
		- Use as a 2nd dose for children 1-18 years of age who are exposed to varicella as well as for outbreak control
		- Household contacts of immunocompromised individuals, regardless of age

2007 – 2008 Flu Season

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For more information about seasonal, avian and pandemic in fluenza, visit the MDPH flu website at www.mass.gov/dph/flu. The 2007 ACIP recommendations for the prevention and con trol of influenza can be found at:

http://www.cdc.gov/mmwrPDF/rr/rr5606.pdf.

STD

Massachusetts Integrated Counseling, Testing, and Referral Project

The Massachusetts Integrated Counseling, Testing, and Referral (ICTR) project was rolled out in April 2007. The overall goal of the ICTR program is to promote access to testing for HIV, hepatitis C, chlamydia, gonorrhea, and syphilis, as well as to immunization with hepatitis A and B vaccines.

ICTR sites are:

- Free
- Confidential
- Conveniently located within communities
- Don't require a physical exam

By providing services together, with comprehensive counseling and testing sessions, ICTR programs raise clients' awareness of their risks for HIV infection, other sexually transmitted infections/hepatitis, promote testing, identify infected individuals, and facilitate access to treatment or medical management. Since the introduction of testing for sexually transmitted infections at these programs, over 500 individuals have been screened for chlamydia infection, gonorrhea and/or syphilis.

When a person calls an ICTR program, he or she will be scheduled for a confidential pre-test visit. During this pre-test session, a counselor will provide information about HIV infection, other sexually transmitted infections and hepatitis A, B, and C. ICTR counselors help clients evaluate their risk behavior, develop individualized prevention plans and choose testing options based on their risk. Depending on the clinic site, clients may receive an HIV test by oral swab or finger stick, a blood draw for hepatitis C and syphilis, and a urine-based screening for chlamydia and gonorrhea. Clients make an appointment to return for their results, usually within two weeks.

Massachusetts ICTR Sites – September 2007

Baystate Medical Center	(413) 794-8725
Boston Medical Center/Project Trust	(617) 414-4495
Cambridge Health Alliance	(617) 591-6767
Fenway Community Health	(617) 267-0159
Great Brook Valley Health Center	(508) 854-3260
Greater Lawrence Family Health Center	(978) 685-7663 x8501
Greater New Bedford Community Health Center	(508) 992-6553
Holyoke Health Center	(413) 420-2133
Infectious Disease Services of Cape Cod	(508) 862-5650
Lynn Community Health Center	(781) 581-3900 x691
Outer Cape Health Services	(508) 487-9395
Stanley Street Treatment and Resources (SSTAR)	(508) 324-3561

For more information on location and contact information for Integrated Counseling and Testing Sites, visit: http://www.gettestedboston.org/testing_sites_map.htm.

Record Distribution of Newly Developed Plain-Language STD Materials: Request Your Own!

In January 2007, the Division of STD Prevention updated STD educational materials. To date, over 30,000 fact sheets and other materials have been requested, marking the largest distribution of STD materials in recent years. The reason for the demand is likely due to both the appeal of the new materials and changing epidemiology — primarily increases in chlamydial infection in youth and young adults, and infectious syphilis and gonorrhea in men-who-have-sex-with-men.

The bulk of distribution has been mainly to community and school-based settings, although other settings, such as local public health departments and health care settings have also requested the materials. In addition, jurisdictions from around the country have requested these materials for their own distribution. The popularity of the Massachusetts' STD materials reflects their easy-to-read format, simple illustrations, and use of direct and non-judgmental language.

The STD materials available include: an STD Brochure, a "How To Use a Condom" fact sheet, nine disease specific facts sheets (chlamydia, gonorrhea, genital herpes, genital warts, gonorrhea, herpes, HIV, LGV, scabies and pubic lice, syphilis and trichomoniasis), and three population-specific fact sheets (Women and STDs, Gay and Bisexual Men and STDs, and Teens and STDs).

A brochure for women entitled "It's all about you! No-Nonsense Knowledge about Women, STDs, and Getting Tested," is also available.

All fact sheets are available in bulk and at no cost in English and Spanish. The women's brochure is currently only available in English. The STD Brochure is also available in Portuguese as well as English and Spanish.

To order STD materials, please contact Ann Beck at the Division of STD Prevention at 617-983-6962 or e-mail Ann.Beck@state.ma.us. Selected materials can also be viewed online at: www.mass.gov/dph/cdc/factsheets/factsheets.htm.

Refugee and Immigrant Health

Preventing Importation of Disease among Refugees: Federal-State-Local Partnerships

Recently, state refugee health programs have been mobilized by the Division of Global Migration and Quarantine, U.S. Centers for Disease Control and Prevention (CDC), in response to overseas outbreaks or identification of disease among newly arrived refugees. In Massachusetts, those involved in the responses have included Refugee Health Assessment Program (RHAP) providers, local public health nurses, voluntary resettlement agencies (VOLAGs), and Refugee and Immigrant Health Program staff.

In October 2006, poliomyelitis due to wild poliovirus type 1 was diagnosed in a 3-year-old Somali girl living in a Dadaab refugee camp in Kenya. Approximately 140,000 refugees – primarily Somalis – were living in the three Dadaab camps and renewed fighting in Somalia had resulted in increased flow of refugees into the camps. The virus isolated from the girl corresponded to a strain of wild poliovirus type 1 circulating in Somalia at the same time. Because refugees being resettled in the U.S. who either came from Dadaab camps or stayed at the Nairobi transit center (which temporarily housed refugees en route to the U.S. from multiple camps) were potentially exposed to polio virus, CDC issued domestic recommendations to prevent importation of disease.

Twenty refugees resettled in Massachusetts were among those identified as being at risk for exposure to polio virus. In addition to providing necessary polio vaccinations, nurses conducted active surveillance for illness consistent with polio. Refugee and Immigrant Health Program bilingual community outreach educators provided information and support to refugees and health care providers involved. No new cases were diagnosed in the U.S. In a June 2007 Recognition Awards Ceremony, the CDC highlighted the partnerships and many individuals involved in the response for "demonstrating scientific excellence in preventing the importation of disease into the United States during an overseas polio outbreak."

In another situation, CDC notified states in July 2007 that cases of malaria had been identified in the U.S. among Burundian refugees resettled from Tanzania. Burundian refugees, like other refugees departing from sub-Saharan Africa, received a single dose of sulfadoxine-pyrimethamine (SP) pre-departure for presumptive treatment of malaria. High rates of SP resistance likely resulted in ineffective pre-departure treatment. To prevent any additional cases of malaria, CDC requested that refugee health programs locate and presumptively treat the 1,600 already-resettled Burundian refugees, using atovaquone-proguanil (Malarone®). Overseas, the pre-departure treatment was changed to artemesinin combination therapy (ACT).

Twenty Burundian refugees had resettled in Massachusetts in advance of the change to ACT pre-departure. In this case, RHAP providers were able to quickly initiate treatment for all, either through already-scheduled health assessment visits or specially-arranged encounters.

The Massachusetts refugee health infrastructure includes the network of 10 clinical RHAP sites – mostly community health centers – where refugees are evaluated soon after arrival in the U.S. These sites can rapidly incorporate new recommendations to meet the unique needs of refugees and, with support from refugee resettlement and public health partners, can assure appropriate services to prevent importation of disease.

Update: New Refugee Populations to Resettling in Massachusetts

Burundians

Approximately 7,000-9,000 Burundian refugees will resettle in the U.S. over the next two years. These refugees have lived in camps in Tanzania since 1972; they are often referred to as "1972 Burundians".

The 1972 Burundians are primarily ethnic Hutu who fled following targeted violence promoted by the Tutsi-dominated government. Approximately 200,000 people were killed and an additional 150,000 fled to neighboring countries, with Tanzania receiving the largest number. Twenty years later, ethnic violence again caused 500,000 refugees to flee the country. Then, in 1994, the Rwandan genocide, in which Hutu extremists murdered Tutsi, and the exodus it ignited, resulted in nearly 500,000 refugees in Tanzania.

Many Burundian refugees returned home after a peace agreement in 2000. The 1972 Burundians living in isolated refugee camps were unable or unwilling to return; neither can they stay in Tanzania. The United Nations High Commission for Refugees (UNHCR) cites several reasons for their inability to return, including the extended length of time outside Burundi, the association of Burundian refugees with a radical opposition movement, and the near-impossibility of reclaiming family land.

The native language of Burundian refugees is Kirundi; some may speak limited Swahili as that is spoken in Tanzania. Although French is an official language of Burundi, it is likely spoken only by well-educated individuals. Most adults in the camp had limited access to formal education and it is estimated that only 20% of the adult population is literate.

Burmese

An estimated half million Burmese refugees have fled their

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Applied TB research Update

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The following table lists the status of TBESC studies to date:

Titles of TBESC Studies	Number of Sites Involved	Massachusetts Participation	Status
Entry into the TB Epidemiological Studies Consortium	21	Yes	
1. Prospective evaluation of immunogenetic and immunologic markers for susceptibility to tuberculosis infection and progression from M.Tuberculosis infection to active TB	9		On going
2. Zero tolerance for pediatric tuberculosis	3		Completed
3. Models for incorporating HIV counseling, testing, and referral into TB contact investigations	1		Completed
4. Prevalence of LTBI among high risk populations in the US	3		On going
5. Regional capacity building in low incidence area	1		On going
6. Use of network analysis methods to characterize M. tuberculosis transmission patterns among women and other high-risk populations	3		Completed
7. A national genotyping registry for a molecular epidemiological analysis of multidrug-resistant M. tuberculosis, USA and/or Canada	17		Yes
8. Enhanced surveillance to identify missed opportunities for TB prevention in foreign-born populations	20		Yes
9. New model for assessing TB surveillance and action performance and cost	2		On going
10. Addressing TB among African Americans in the Southeast: identifying and overcoming barriers to treatment adherence for LTBI and TB disease	1		On going
11. Assessing the TB knowledge, attitudes, beliefs and practices among private providers serving non-US born populations at risk for TB	1	Yes (with Seattle)	On going
12. Factors associated with acceptance of adherence to and toxicity from treatment for latent tuberculosis infection (TLTBI), and pilot study of TLTBI effectiveness: Phases 1, 2, 3	20		Yes
13. Culturally appropriate TB educational materials for leader and staff of Hispanic service organization	1		On going
14. Enhancing TB programs' capacity for self-evaluation: testing new tools and developing an evaluation toolkit	3		On going
15. African refugee women's health improvement project	1	Yes	On going
16. Evaluation of the TK Medium : A new rapid solid culture system for tuberculosis	3		On-hold
17. Evaluation of new interferon-? release assays in the diagnosis of latent tuberculosis infection in health care workers	4		Start-up
18. Effectiveness of QuantiFERON®-TB Gold (QFT-G) in contact tracing	Awaiting PGO release		Start-up
19. Assessing QFT as an initial screening tool for U.S.-bound applicants for immigration and feasibility of follow-up in U.S. immigrants	Awaiting PGO release		Start-up
20.Treatment practices, outcomes and cost of multidrug-resistant (MDR TB) and extensively drug resistant tuberculosis (XDR TB) in the United States	Awaiting PGO release		Start-up
21. Assessing the integration of social network analysis into tuberculosis contact investigation practice	Awaiting PGO release		Start-up
22. National study of determinants of early diagnosis, prevention, and treatment of TB in the African-American community	Awaiting PGO release		Start-up
23. Perceptions of TB among the Karen-Burmese: An ethnographic study	Awaiting PGO release		Start-up

Chronic Viral Hepatitis Coinfection in Patients Reported with HIV Infection, Massachusetts: A Preliminary Analysis

Human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV) share common routes of transmission and often infect the same individual. Coinfection with HIV, and HCV or HBV can have serious implications for health outcomes. In order to examine the extent of HIV and viral hepatitis coinfection in Massachusetts, a database match was conducted between HIV, HCV, and HBV surveillance databases(1).

The database match found a total of 1275 individuals who were diagnosed with both HIV infection and probable2 HCV infection, and 2028 individuals who were diagnosed with HIV infection and confirmed HCV infection. The prevalence of reported HCV infection (confirmed & probable) is 13.3% among individuals reported with HIV infection in Massachusetts. There were 857 matches between the HIV and chronic HBV infection databases, indicating a chronic HBV infection prevalence of 3.5% among individuals reported with HIV infection in Massachusetts. A small sub-population of HIV+ individuals, who had positive tests for both HBV and HCV, was also identified. The prevalence of dual HBV-HCV coinfection among HIV+ individuals is 1%.

The population of HIV patients who are coinfected with viral hepatitis differs from that infected with HIV alone in some important ways. In contrast to the population infected with HIV alone (see table), the coinfected population has:

- Injection drug use (IDU) as the primary mode of exposure for the majority;
- A higher proportion of Hispanic individuals; and
- A higher proportion of HCV coinfected individuals were born in a US Dependency (Puerto Rico)

The mean time between HIV diagnosis and HBV diagnosis was 3.2 years and between HIV diagnosis and HCV diagnosis was 3.6 years. Sixty-three percent of HCV-HIV coinfected cases and 56% of HBV-HIV coinfected cases were first diagnosed with hepatitis at least one year after their first reported HIV diagnosis. The reason for these delays between HIV diagnosis and hepatitis diagnosis might be accounted for in several ways, including: 1) delay in seeking testing; 2) inaccurate report of diagnosis date; and 3) continued engagement in high risk behaviors.

These preliminary results show a need to reinforce the recommendation for hepatitis screening among persons newly diagnosed with HIV infection, as well as for HIV tests for individuals diagnosed with HCV and HBV. Efforts to provide prevention education, HBV vaccination and drug abuse treatment to newly diagnosed HIV+ individuals are also indicated.

1 The hepatitis B and C databases contained cases reported from 1996-2005, while the HIV database consisted of all HIV/AIDS cases reported from 1983-April 2007.

2 *Probable:* a case that is anti-HCV positive (repeat reactive) by EIA and has alanine aminotranferase (ALT or SGPT) values above the upper limit of normal, but the anti-HCV EIA result has not been verified by an additional more specific assay or the signal to cutoff ratio is unknown.

http://www.cdc.gov/epo/dphsi/casedef/hepatitisccurrent.htm

Characteristics of HIV and chronic HBV/HCV infected individuals, Massachusetts*

	HIV infected only	HBV and HIV infected	HCV(probable) and HIV infected	HCV(confirmed) and HIV infected
	N=24805	N=857	N=1275	N=2028
Age at HIV Dx	%	%	%	%
0-15	1.6	0.4	0.1	0.6
16-30	27.5	30.3	23.7	26.4
31-50	64.3	64.3	70.6	69.8
>=51	6.6	5.0	5.7	3.2
Sex	%	%	%	%
Male	75.6	80.9	70.7	71.0
Female	24.4	19.1	29.3	29.0
Race/Ethnicity	%	%	%	%
White (non-Hispanic)	52.4	46.4	42.3	41.7
Black (non-Hispanic)	26.3	27.1	25.2	19.6
Hispanic	20.0	23.9	31.6	37.7
Asian/PI	0.9	1.8	0.2	0.6
Other	0.1		0.2	0.1
Unknown	0.4	0.8	0.4	0.4
Primary Reported Mode of Exposure (for HIV)	%	%	%	%
MSM	39.4	34.1	8.0	7.2
IDU	25.1	40.8	72.7	73.2
MSM/IDU	3.4	5.4	5.4	6.4
Heterosexual	11.8	7.5	6.0	5.1
Presumed Het [δ]	11.9	7.7	3.5	3.9
Other	3.3	0.7	0.8	1.8
Unknown	5.2	3.9	3.6	2.4
Place of Birth	%	%	%	%
U.S.	73.6	72.4	75.4	71.8
U.S. Dependency	10.5	13.5	20.7	24.3
Non-US	16.0	14.1	3.9	3.9

* The hepatitis B and C databases contained cases reported from 1996-2005, while the HIV database consisted of all HIV/AIDS cases reported from 1983-April 2007.
δ Presumed Heterosexual are cases whose only reported risk is heterosexual contact with a partner of unknown HIV status or risk.

You Be The Epi

A dermatologist calls the Massachusetts Department of Public Health's Division of STD Prevention. A 15 year old has just been diagnosed with secondary syphilis, and he is looking for guidance on how to manage the case.

The dermatologist states that this 15 year old first presented to an emergency department with a complaint of rash for 2 months. The rash initially started on her arm and then spread to her armpit, chest and face. She went to see her primary care provider about 1 month prior to the ED visit, and was prescribed topical hydrocortisone, which she had been using, without effect. She denied having fever, cold symptoms, headache, malaise, appetite change, sore throat, muscle weakness, weight loss or swollen glands. She had no known allergies to medications or foods, and her immunizations were up-to-date. She lived with her parents, there were no pets in the household, she had not traveled recently outside of Massachusetts, and she denied ever being sexually active. On exam, she was afebrile, and the only unusual physical finding was a non-itchy, non-erythematous, non-painful rash consisting of hypopigmented macules (pale spots) with central sparing, on the face extending to the trunk with a few spots scattered on the arms. It looked like this.

In the ED, the dermatologist was consulted and a biopsy of the rash was performed. The patient was presumptively diagnosed with discoid lupus, and sent home to follow-up in the dermatology clinic for biopsy results. The patient showed up for follow-up 1 week later, and biopsy results showed spirochetal organisms. Repeat questioning revealed that she had been sexually active since the age of 13, had 3 different male partners, and had been with one partner for the past 8 months and this partner was not using condoms consistently. Darkfield microscopy was done on a scraping of another skin lesion, and this also confirmed the presence of spirochetal organisms. An RPR was sent, which came back at 1:64, and the confirmatory TP-PA test was also positive. She was tested for HIV infection using an HIV antibody test, and she was negative.

Epidemiology of Syphilis in Massachusetts

In 2005, there were 232 infectious (primary, secondary, and early-latent) syphilis cases in Massachusetts, with the majority being reported in Suffolk County. Incidence rates were higher in adults (not adolescents), and the male to female ratio of infectious syphilis cases was 10:1, making this case unusual from the epidemiologic standpoint. Thus it is not surprising that the diagnosis in this case was missed for some time. Syphilis also disproportionately affects minority populations. Infectious syphilis is 4.2 times higher in blacks compared to whites(1).

Syphilis Diagnosis, Treatment and Management(2)

Definitive diagnosis of syphilis is made when the causative organism, a spirochete called *Treponema pallidum*, is seen on darkfield microscopy done on a skin scraping or exudate. A presumptive diagnosis of syphilis is made when a non-treponemal test such as an RPR (Rapid Plasma Reagin) or VDRL (Venereal Disease Research Laboratory) is determined to be positive and confirmed through the a positive serum treponemal test such as FTA-ABS (Fluorescent Treponemal Antibody Absorbed) or TP-PA (Treponemal Pallidum Particle Agglutination).

In retrospect, this patient had a rash that was consistent with secondary syphilis. Determining the stage of infection — primary, secondary, latent or tertiary – becomes important because it influences treatment length, and type of parenteral penicillin G used (benzathine, aqueous procaine or aqueous crystalline). Massachusetts Department of Public Health recommendations for the treatment of secondary syphilis are to give 2 doses of benzathine penicillin 2.4 million, units intramuscularly, separated in time by 1 week.

Follow-up of this patient should take place at 6 months after treatment, and should consist of an examination and repeat non-treponemal serologic testing (using the same non-treponemal test that was used prior to treatment) to document a four-fold decline in titer. If a four-fold decline does not occur by 6 months, the patient might have failed treatment, been reinfected, have undiagnosed HIV infection, or have unrecognized neurosyphilis. Additional evaluation and re-treatment would be important.

Other STD Testing

Because management of syphilis is different in HIV-infected patients (who are at greater risk for early central nervous system involvement), all patients who are found to have syphilis should be tested for HIV infection. In addition, patients diagnosed with one STD should be screened for others, and this patient should be tested for chlamydia infection, gonorrhea and trichomonas, and reminded to get an annual Pap smear.

Management of Sex Partners(2)

Persons exposed within 90 days preceding the diagnosis of secondary syphilis might be infected, even if they have no symptoms and their serum tests for syphilis are negative, so these persons should be treated presumptively with penicillin regardless of blood test results and before blood test results are reported.

Persons exposed >90 days preceding the diagnosis of secondary syphilis should be treated presumptively with penicillin, even if asymptomatic if serologic results are not immediately available or if follow-up is not assured.

The period that a secondary syphilis patient is at risk for transmitting syphilis is 6 months plus the duration of symptoms (this at-risk period depends on the stage of syphilis infection). So, in this case, the patient could have been transmissible for 8 months (6 months + 2 months of rash), and her one sex partner for the past 8 months should be notified and treated.

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Additional Information

You Be the Epi

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The patient can notify her partner herself, or she can use a free health department service called "partner referral". The MDPH has a specially trained group of people, called Disease Intervention Specialists (DIS), who provide this service for patients with syphilis. They are specially trained to interview, counsel and locate people, while protecting all confidential information(3).

Acknowledgment

The details about the case were shared by Dr. Vishakha Sabharwal from Boston University Medical Center.

(Footnotes)

1 www.mass.gov/dph/cdc/aids/2005_surveillance.pdf
2 http://www.cdc.gov/std/treatment/
3 http://www.mass.gov/dph/cdc/std/services/parbro.htm

TB Nurse Spotlight

This issue of Communicable Disease Update will highlight public health nurse, Pat Cyr RN, of the New Bedford Health Department.

In late 1997, Pat decided she "needed a career change", and an opportunity at the New Bedford Health Department presented itself. Pat initially was hired to manage the TB clinic and TB related duties of the Department. Although the TB Clinic has since closed, she continues to work closely with public health nurses to insure that TB case management is accomplished.

The New Bedford Health Department nursing team does an excellent job of covering the city for all aspects of public health. Pat's biggest challenge, and the most interesting aspect of her job, is working with culturally diverse patients. Pat states, "No two days are alike". New Bedford's diverse populations, fishing industry and factories pose unique challenges for directly observed therapy (DOT), contact testing and follow up. Pat is creative, sensitive and thorough. The Board of Health nurses share a strong working relationship with the local hospital, local neighborhood health center and other members of the health care community.

Pat is a dedicated nurse. She sees obstacles as challenges. For example, she was carrying out DOT on an older man a few years ago on the 11 floor of a high-rise apartment building where the elevator frequently broke. Pat often hiked up and down the 11th flights of stairs to ensure the patient was receiving adequate treatment. Possibly her tri-weekly square dancing or five grandchildren account for her ability to do this!

Pat and her co-workers are part nurse, part social worker and part detective. Whether it is finding lost patients, doing DOT in unusual venues or arranging for services, they do whatever it takes to get the patient and contacts through successful TB therapy. All of this is done while meeting the demands of emergency preparedness, seasonal programs and emerging public health concerns.

Update: New Refugee Populations to Resettling in Massachusetts

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country, also known as Myanmar. Certain groups have been referred to the U.S. by UNHCR for resettlement consideration, including those living in several border camps in Thailand and in Malaysia. As of August 31, 2007, over 10,000 Burmese refugees had been resettled in the U.S.

Burmese are diverse in ethnicity, language, culture and history; resettled refugee populations are primarily ethnic Karen, Chin and Burman (the majority ethnic group). Democracy and independence activists were targeted for repression by the military government. The first wave of Karen refugees fled to Thailand in 1984; a second wave fled in 1995 and, by 2007, the Burmese population in Thailand numbered approximately 150,000. Some 20,000 Chin refugees are in Malaysia, a country which is not signatory to international refugee agreements. Conditions for Burmese refugees in Thailand and Malaysia were poor and, as noted in the context of Burundian resettlement, neither return nor local integration was an option for many.

The diversity of languages among Burmese refugees may challenge health care providers – although Burmese is the national language, it is not universally spoken by ethnic minorities. Sgaw Karen is the language of most Karen refugees; Hakha Chin will be most frequent among Chin refugees, but it should be noted that over 20 languages are spoken by the Chin.

A 2001 CDC study of Karen refugees documented common trauma events such as hiding in the jungle (79%), forced relocation (67%), destruction of houses and crops (48%). Further, the extended time spent in refugee camps or, in the case of Chin refugees, in unstable and vulnerable living conditions, will likely also affect the health and mental health of these refugees.

Source: Cultural Orientation Resource Center; www.culturalorientation.net

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http://www.mass.gov/dph/cdc/update/comnews.htm

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